Amendments to the Claims

This listing of the claims replaces all prior versions and listing of the claims in the present application.

Listing of Claims

1. (canceled)

2. (original) A GMPLS controller comprising:

a plurality of switch controllers controlling a plurality of switch devices, respectively, each of said plurality of switch devices including at least one port;

a port information table describing an association of said ports to said plurality of switch controllers; and

a resource manager responsive to a label request indicative of a target port selected out of said ports for managing labels, and for issuing a device setup request,

wherein said resource manager consults said port information table to determine a target switch controller associated with said target port out of said plurality of switch controllers, and provides said device setup request for said target switch controller, and

wherein said target switch controller updates a setup of said switch device associated with said target switch controller.

3. (original) The GMPLS controller according to claim 2, further comprising:

a label database describing whether each of said labels is in use or not,

wherein said label request is indicative of a target label, and

wherein said resource manager updates said label database to indicate that said target label is in use.

4. (original) The GMPLS controller according to claim 2, further comprising:

at least one port-to-port connection controller for achieving a port-to-port connection between two out of said plurality of switch devices,

wherein said port information table describes an association of said ports to said at least one port-to-port connection controller,

wherein said resource manager is responsive to a port-to-port connection request indicative of another target port selected out of said ports for managing said labels, and for issuing another device setup request,

wherein said resource manager consults said port information table to determine a target port-to-port connection controller associated with said another target port out of at least one port-to-port connection controller, and provides said another device setup request for said target port-to-port connection controller.

5. (original) The GMPLS controller according to claim 2, wherein said plurality of switch controllers include interfaces, respectively, and said interfaces use the same protocol to receive said device setup request.

6. (original) The GMPLS controller according to claim 2, wherein said plurality of switch devices include at least two out of an MPLS switch, a TDM switch, a Lambda switch, and a fiber switch.

7. (original) The GMPLS controller according to claim 2, wherein said resource manager manages bandwidth information of said GMPLS network.

8. (original) The GMPLS controller according to claim 2, wherein said resource manager manages LSP information of said GMPLS network.

9. (canceled)

10. (currently amended) [[A]] The GMPLS controller system according to claim 16, ~~used in a GMPLS network, comprising:~~

~~a plurality of GMPLS controllers each of which includes:~~

~~a switch controller controlling a switch device;~~

~~a resource manager responsive to a label request for managing labels, and for issuing a device setup request,~~

~~wherein said resource managers of said plurality of GMPLS controllers use a same algorithm for issuing said device setup requests,~~

wherein each of said switching device is selected out of a MPLS switch, a fiber switch, a TDM switch, and a Lambda switch.

11. (original) The GMPLS controller system according to claim 10, wherein said plurality of switch controllers include interfaces, respectively, and said interfaces uses a same protocol to receive said device setup request.

12. (currently amended) [[A]] The GMPLS controller system according to claim 16, ~~used in a GMPLS network, comprising:~~

~~a plurality of GMPLS controllers each of which includes:~~

~~a switch controller controlling a switch device;~~

~~a resource manager responsive to a label request for managing labels, and for issuing a device setup request,~~

~~wherein said resource managers of said plurality of GMPLS controllers use a same algorithm for issuing said device setup requests,~~

wherein said resource manager manages bandwidth information of said GMPLS network.

13. (currently amended) [[A]] The GMPLS controller system according to claim 16, ~~used in a GMPLS network, comprising:~~

~~a plurality of GMPLS controllers each of which includes:~~

~~a switch controller controlling a switch device;~~

~~a resource manager responsive to a label request for managing labels, and for issuing a device setup request,~~

~~wherein said resource managers of said plurality of GMPLS controllers use a same algorithm for issuing said device setup requests,~~

wherein said resource manager manages LSP information of said GMPLS network.

14. (original) A method for controlling switch devices provided for a GMPLS network, comprising:

providing a GMPLS controller including:

a plurality of switch controllers controlling a plurality of switch devices, respectively, each of said plurality of switch devices including at least one port;

a port information table describing an association of said ports to said plurality of switch controllers;

providing a label request indicative of a target port selected out of said ports;

consulting said port information table to determine a target switch controller associated with said target port out of said plurality of switch controllers;

providing a device setup request for said target switch controller; and

updating a setup of said switch device associated with said target switch controller in response to said device setup request.

15. (new) A GMPLS controller used for a GMPLS network comprising:

a resource manager responsive to a label request for managing labels, and for issuing a device setup request;

a switch controller controlling setup of a switching device in response to said device setup request, said switch controller being separated from said resource manager.

16. (new) A GMPLS controller system used in a GMPLS network, comprising:

a plurality of GMPLS controllers each of which includes:

a switch controller controlling a switch device;

a resource manager responsive to a label request for managing labels, and for issuing a device setup request,

wherein said resource managers of said plurality of GMPLS controllers use a same algorithm for issuing said device setup requests.